

## REFERENCES

- ANON. (1985): The Wealth of India. A Dictionary of Raw Materials and Industrial Products. Raw Materials Vol. I: A, Revised Edition CSIR. New Delhi.
- BARUAH, P. & S. CHOUDHURY (1974): *Alternanthera philoxeroides* (Mart.) Griseb. Amaranthaceae - A new plant record for Assam. *J. Univ. Gauhati*, 20-22: 98-100.
- BENNET, S.S.R. (1979): Flora of Howrah District. International Book Distributors, Dehra Dun.
- BIR, S.S., M. SHARMA & C.P. SINGH (1992): Corrections and additions to the Flora of Gurdaspur district. Punjab. *J. Bombay nat. Hist. Soc.* 89(1): 143-145.
- DEB, D.B. (1981): The Flora of Tripura State Vol. II. Today and Tomorrow's Printers and Publishers, New Delhi.
- GHATE, V.S. & V.D. VARTAK (1981): Studies on the aquatic flowering plants from greater Pune area: Part I Enumeration. *J. Univ. Poona*, 54: 121-129.
- JAIN, S.K. (1991): Dictionary of Indian Folk Medicine and Ethnobotany. Deep Publications, New Delhi.
- KARTHIKEYAN, S., ANAND KUMAR & B.D. SHARMA (1982): Aquatic Angiosperms of Maharashtra. *J. Econ. Tax. Bot.* 3(2): 423-445.
- LAL, CHAMAN & MALAVIKA SAH (1990): Range extension of three exotic aquatic macrophytes in North India. *J. Bombay nat. Hist. Soc.* 87(2): 469.
- MAADHUSOODANAN, P.V. & K.G. AJIT KUMAR (1993): *Alternanthera philoxeroides* (Mart.) Griseb. - 'Alligator Weed' - A fast spreading weed in Kerala, South India. *J. Econ. Tax. Bot.* 17(3): 651-654.
- MAHESHWARI, J.K. (1964): *Alternanthera philoxeroides* (Mart.) Griseb. A new record for India. *Bull. Bot. Sur. Ind.* 6: 313-314.
- NAIK, V.N. & D.S. POKLE (1985): Genus *Alternanthera* (Amaranthaceae) in Marathwada. *J. Indian Bot. Soc.* 64: 290-293.
- NAITHANI, H.B. & M.B. RAIZADA (1976): New distributional records of eleven plants in India. *Indian Forester* 102: 675-691.
- PANGTEY, Y.P.S. & S.S. SAMANT (1989): *Alternanthera philoxeroides* (Mart.) Griseb - A new record for North Western Himalaya. *J. Bombay nat. Hist. Soc.* 86(1): 119-120.
- RAJU, V.S. (1986): Alligator weed in Andhra Pradesh. *Indian Bot. Repr.* 5(2): 207-208.
- SANKARAN, T. & E. NARAYANAN (1971): Occurrence of the alligator weed in South India. *Curr. Sci.* 40: 641.
- SINGH, S.R. & N.J. SINGH (1985): A preliminary ethnobotanical study of wild edible plants in markets of Manipur. I. *J. Econ. Tax. Bot.* 6: 699-703.
- SIVARAJAN, V.V. & PHILIP MATHEW (1984): Notes on Indian species of *Alternanthera* Forsk. (Amaranthaceae) (Kashmir valley excluded) with a new record. *Indian Journal of Forestry* 7(1): 46-53.

### 35. A REPORT ON THE OCCURRENCE OF *ANTIDESMA THWAITESIANUM* MUELL. - ARG. (EUPHORBIACEAE) FROM SOUTH ANDAMANS

#### INTRODUCTION

During botanical exploration of Mt. Harriet Hills (South Andamans) we came across some interesting specimens of *Antidesma* species. The specimens were critically studied at CAL and identified as *Antidesma thwaitesianum* Muell.-Arg. Airy Shaw (1972a, 1972b, 1981) reported the occurrence of this species from Andaman Islands on the basis of an old collection by Parkinson deposited at Kew (K.). This species has never been reported again from Andaman Island after Parkinson's collection (Parkinson, 575, without specific locality 15-5-1915). Chakrabarty & Balakrishnan (1992) in their revisionary work, reported that no specimen of this species from

Andaman Islands is traceable in Indian herbaria. The recent exploration of the slopes of Mt. Harriet ranges revealed small populations of this species growing at Wrightnyo and Kalatang forests of the Harriet ranges. Though *Antidesma thwaitesianum* Muell.-Arg. has a wide phytogeographical distribution from Sri Lanka to South-East Asia, in the Indian flora, it is confined to the Andaman Islands. Being a very rare and interesting species, an illustrated account is given below to facilitate its identification.

*Antidesma thwaitesianum* Muell.-Arg. in DC., Prodr. 15(2): 263. 1866; Airy Shaw in Kew Bull. 26: 360, 462. 1972 & in Kew Bull. Ad. ser. IV. 217. 1975 & in Kew Bull. 36: 364. 1981; Mandal & Penigr. in J. Eco. Tax. Bot. 4: 255. 1983; T. Shakrab.

& Balakr. in J. Econ. Tax. Bot. Ad. Ser. 9: 19. 1992. *A. bunius* sensu Hook. f., Fl. Brit. India 5: 358-9. 1887 (Pro parte); Pax & Hoffm. in Engl., Pflanser. 4, 147(15): 160 - 1. 1992. non (L.). Spreng. 1825.

Shrubs or small trees, c. 6 m tall, branchlets greyish, sparsely lenticellate. Leaves 8-19 x 3-8 cm, elliptic to elliptic oblong, or ovate-lanceolate, acuminate at apex, acute or rounded at base, coriaceous, glossy, lateral nerves c. 10 pairs, thin, flattened above, thinly raised beneath, midrib flattened above, raised, tapering beneath, venation finely reticulate, tessellated, petiole 1 cm long, pulvinate at apex, infructescence usually cauliflorous, very rarely axillary on old leaves, c. 7 cm long, fascicled. Fruits 7 x 5 mm, flattened, quadrate orbicular drupes with persistent stigma at apex, greenish turning reddish to finally blackish.

Fr.: April.

**Ecology:** Very rare in the inland evergreen forest at low altitude.

**Distribution:** Andamans (India); Sri Lanka, Indo-China, Myanmar (Burma), Thailand, Sumatra, Philippines and Borneo.

**Specimen examined:** Wrightmyo 16-4-1989, S.P. Mathew 20264 (CAL & PBL)

#### ACKNOWLEDGEMENTS

We thank Shri T. Chakrabarty CAL, Calcutta for confirming the identity of the species.

February 7, 1994

SAM P. MATHEW  
SUSAN ABRAHAM  
Department of Botany,  
University of Kerala,  
Trivandrum, Kerala.

#### REFERENCES

AIRY SHAW (1972a): The Euphorbiaceae of Siam. *Kew Bull.* 26: 191-363.  
AIRY SHAW (1972b): New or Noteworthy species of *Antidesma* L. (Stilaginaceae). *Kew Bull.* 26: 457-468.  
AIRY SHAW (1981): The Euphorbiaceae of Sumatra. *Kew*

*Bull.* 36(2): 239-374.

CHAKRABARTY, T. & N.P. BALAKRISHNAN (1992): The family Euphorbiaceae of N Islands. *J. Eco. Tax. Bot. Ad. Ser.* 9.

### 36. A REPORT ON THE THREATENED ORCHIDS OF MANIPUR

As many as 34 species of orchids from North-East India are listed among the threatened plants of India, out of which only three species, namely *Dedrobium bensoniae* Reichb. f., *Renanthera imschootiana* Rolfe., and *Vanda coerulea* Griffith ex Lindl., are recorded from Manipur (Jain and Shastri 1983). However, I have observed three more species of threatened orchids growing in the hills and glades of Manipur.

*Paphiopedilum spicerianum* (Reichb. f.) Pfitz., an endemic and endangered plant recorded from Assam also grows in the Barak watershed of Manipur. This highly ornamental orchid is seen to grow in great abundance on the steep rocky cliffs of the Barak river in the Jiribam and Tamenglong Sub-divisions.

*Pleione hookeriana* (Lindl.) Williams, a rare orchid that is recorded to be endemic to Sikkim,

Arunachal Pradesh, Bhutan and Nepal also grows in Manipur at elevations 2700-3000 m above MSL.

*Galeola falconeri* Hook. f., an endemic and rare orchid of Sikkim and Arunachal Pradesh is also found in the parallel folds of the Shiroy-Kasom hill ranges of Manipur.

It is next to impossible to collect and grow *Galeola falconeri* - a saprophyte, in orchid gardens. However, the *Paphiopedilum spicerianum* and *Pleione hookeriana* are successfully grown in the state owned orchid gardens of Manipur, as a part of ex-situ conservation of the threatened orchids of the State.

A new genus of orchid "*Kalimpongia*" was discovered in Manipur at the elevation 1700-2000 m (Pradhan 1977) and three different species of orchids, namely *Kalimpongia narajitii*, *Scheonorchis manipurensis* and *Ascocentrum ampullaceum* var.